HYPERTROPHY OF THE OMENTUM IN HERNIA.[1]

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THE omentum, as one of the contents of hernial tumors, is subject to some of the same changes as the gut, but its structure and uses make also radical differences which should be noted.

The bowel, on account of its changing condition as to emptiness or fullness, its movements and its use as a passage way for descending excreta, has a natural disposition to return spontaneously to the abdominal cavity, and is much less liable to form attachments within the hernial sac than the omentum, which, when extended through the rings, has none of these causes leading to spontaneous reduction, and hence is much more of a fixed quantity.

The bowel, subject as it is to changes in size, is much more liable to distend or stretch the rings, and as subsequent loops are thrust through, with their varying quantity of gas and solid contents, to permanently enlarge the openings through which it was extruded. The omentum, composed of fat chiefly, enclosed in a fibrous mesh-work, is elastic and compressible, and consequently not liable by distention to enlarge the openings through which it passes. Hence we find that the openings through which omental hernia occur, when unaccompanied by other contents, are small and the changes which occur are in the omentum rather than in the surrounding tissues. The protruded portion being folded upon itself, at this point, into longitudinal folds frequently adherent to each other, and the fatty globules elongated from pressure, according to the size of the rings, this condition adds very materially to the persistence of the omentum in its extruded position.

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The amount of bowel contained within hernial tumors will vary greatly at different times, according to the position of the patient and with the movement of the bowel in the discharge of its natural function, but in omental hernia *purely*, the amount contained within the sac is a fixed quantity (once extruded, always extruded), as the elongated cells at the constricting rings render the mass at these points smaller than that which is further extruded, hence more difficult of reduction, if not actually irreducible in character.

Without strangulation, the extruded bowel seems to perform ordinarily well its functions even when attachments have formed, but the reduplication of the omentum over the lower border of the stomach and over the transverse colon, when inflammatory changes in the sac occur producing adhesions, may, by pulling upon or binding down these parts, produce pain, derangements of digestion, interference with peristaltic action, and hinder or retard the passage of fecal matter.

The bowel will suffer but slight constriction without gross injury; the omentum being elastic will suffer very great constriction without destruction, and may, even at times when both bowel and omentum are contents of the same tumor, protect the bowel by its elasticity from destruction.

The bowel must be protected from injury, and nearly the whole mass may be included in the hernial sac. Injury to the omentum is of little moment, and only the lower border, so to speak, can possibly be extruded on account of its attachments to the stomach and colon.

On account of these very differences the omentum is subject to different handling, which will be hereafter mentioned, but in addition thereto to changes in the extruded portion which more particularly concerns us now. The small size of the opening through which it has passed interferes sometimes with its venous reflux, by constriction; at times sufficient to cause an hypertrophy or hypertrophic increase of tissue, and both the fat cells and fibrous tissue may partake of this growth. Usually it is the fat growth which predominates, in which case the spider-like meshwork in which these cells have been enclosed is partially lost and the fat cells aggregate together forming masses which vary in size from a pin-head to that of the end of the finger, and are matted together like a bunch of grapes, giving a soft doughy feel; in other words, a lipomatous growth. Again, the distinct spider-like meshwork is lost and there is a true growth of both fibrous and fatty tissue presenting a hard feel, as hard as a fibrous tumor—a fibro-lipomatous growth. In these latter cases the fibrous and fatty tissues are more or less blended together. These new growths may appear upon any portion of the extruded omentum, usually, however, at its lower border and may be of any size imaginable, the whole mass being so thick as to render a previous diagnosis of concurrent extruded bowel an impossibility. On opening the sac the mass will be found fold on fold, packed closely, and frequently matted together by inflammatory adhesions. On a separation of these, which, with care, can generally be done, there may be, and usually is, found only a small portion of the omentum proper, the balance being these new lipomatous growths as described, the line of distinction between the new growths and the omentum proper being well marked. The omentum proper is gathered into longitudinal folds and rounded where it passes through the rings, but these can generally be spread out into its distinctive folds up to the point where it passes through the internal ring. The whole mass then presents an apron-like appearance with a heavy irregular fringe hanging from its lower border. The mass not unfrequently has attachments within the hernial wall to the sac, to a portion of the bowel if such be extruded along with it, or to the testis, and the vessels in the omental portion proper are all very much enlarged. Such a tumor is, of course, irreducible and subject to indefinite growth. It is subject to complete strangulation, to abscess and to cysts, the latter simulating hydrocele, and have been tapped and injected with iodine, producing inflammatory conditions and adhesions in consequence.

What are the indications for treatment? Left to itself we have a constantly increasing and indefinite growth, a dragging weight upon the stomach and transverse colon, pain, inconvenience, etc. Reduction can only be made by the exercise of undue force or by sacrificing the integrity of the rings and abdominal wall, and with the possibility of constantly increasing growth after reduction, with no lessening of the dragging weight upon the stomach and colon or the symptoms produced by it.

With excision the possibility of attachments within to the abdominal wall or to the bowels through its broad base, the danger of sloughing below the ligatures and the danger of hæmorrhage from one or more of its many supplying arteries, these latter dangers reduced to a minimum since the advent of aseptic surgery.

Practically, there is little danger from either of these causes under proper management. To obviate the discomfort, to overcome the dragging weight and pain, to prevent the pulling upon the stomach and colon, to prevent interference with the passage of fæces, is sufficient warrant for excision in these cases, and the rule should be *complete excision with reduction of the stump* and closure of the rings. *If reduction cannot be made, excision at any rate.*

In the accomplishment of this procedure there are important points to be remembered.

The possibility of a loop of intestine being enclosed within the matted folds of the omentum and completely hid from casual inspection. These folds are sometimes so thick as frequently to render a previous accurate diagnosis of the contents of a hernial tumor of this character a matter of impossibility, and even on inspection the folds may so surround the loop of intestine as to completely hide it from view; hence the necessity for a complete withdrawal from the sac and a complete unfolding of the layers as they lie closely packed together so as, by ocular inspection, to satisfy ourselves as to the non-existence of such a complication.

Not infrequently there are extensive attachments between the folds and the intestine. In such cases careful separation should be made, tying off the omentum rather than exerting any degree of forced traction on the gut. The same may be done with attachments to the sac and to the testis when such exists. It is well to remember, also, in large tumors of this kind, being irreducible, that a previous diagnosis of attachments to the sac, testis or gut cannot be made. In attachments, tying off is better than tearing, as the smallest bleeding may be the source of much annoyance after reduction of the stump. In tying off the tumor, it should be done as near as possible to the ring, at least, inside the longitudinal constriction spoken of, so that the final reduction of the stump can be more easily accomplished. The old method of tying off the stump with a single ligature, or even a double ligature, it is to be hoped, has passed completely into disuse. The mass as it projects through the rings, in these cases, is too large and too elastic for one ligature to safely constrict the numerous small vessels which pass through it, and in addition thereto, the tying in mass of such a stump is likely to produce traction on the stomach and colon, or by its attachment to the abdominal wall to form a bridge behind which strangulation of gut could take place. Hence, it is desirable to ligate with some absorbent material in small masses, each mass containing not more than one or two vessels until the whole breadth of the unfolded base is traversed in this way. Properly prepared catgut is suitable material, but better still, in my opinion, is the small-sized kangaroo tendon, as recommended by Dr. H. O. Marcy, used with the cobbler's stitch, but with constriction not too closely made that sloughing may not occur below. This will control all bleeding of the mass when excised, but should there be a bleeding point left it can be controlled with the forceps and ligature, or with a curved needle and ligature above the line of stitching already made. All ligatures should be cut short. If the omentum has been excised sufficiently high to come within the line of longitudinal constriction, the stump will now be reducible generally without difficulty or with very gentle pressure, and the rings, canal and sac are left to be handled in the usual ways, according to the special preference of the operator or special indications in each case.

If strangulation exists in the omentum alone or omentum in connection with the extended gut, we have not the same question at issue as we have in the gut, the rule of excision holding good with the omentum without reference to vitality. It is well to say that the extension of severe inflammation by means of the omentum through the rings, producing general inflammatory conditions in the abdomen, is a rare occurrence, and not greatly to be feared.

The specimen presented herewith is not given as a rarity, since I believe that the condition of hypertrophy presented is not an infrequent one, especially where such tumors are of long standing and composed of omentum alone, but as a typical one of its class. It is from a negro, thirty-four years old, was congenital, and existed until early manhood, about the size of a goose-egg; was increased somewhat about thirteen years since by hard work in a rolling-mill, and since that time has had a constantly increasing growth until it reached more than half way to his knees. Its length was eleven inches, its greatest thickness four and a half inches after being unfolded, and its weight slightly above five pounds. It was an unendurable nuisance. For this purpose it was removed, closure being made at the same time with perfect result.